



1654  
Patent IF-4

Attorney Docket: 302,670-00024

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

**HAICHUAN ZHANG**

Serial No.: 10/053,507

Filed: January 17, 2002

For: Method and Apparatus For Generating  
and Utilizing Linear Moving Optical  
Gradients

Group Art Unit: 1654

Examiner: Randall O. Winston

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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It is requested that the Examiner fully consider the art cited in the accompanying Form PTO/SB/08A, initial the left-most column of the form adjacent each cited reference, and return a copy for Applicants' records. It is further requested that the art be cited on the cover of any patent issuing from the subject application.

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In accordance with §1.98(d), copies of some or all of the references listed on the attached Form PTO/SB/08A are not enclosed herewith because they were previously cited by or submitted to the Patent and Trademark Office in prior copending or related applications for which a claim for priority under 35 U.S.C. §120 has been made in the instant application. Accordingly, Applicants will provide duplicate copies in respect of the present case only if the Examiner so desires.

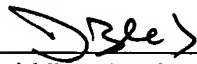
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Respectfully submitted,

O'MELVENY & MYERS LLP

Dated: 5/14/04

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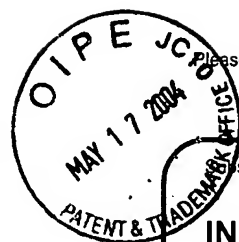
## **Complete if Known**

Application Number	10/053,507
Filing Date	January 17, 2002
First Named Inventor	Haichuan Zhang
Group Art Unit	1654
Examiner Name	Randall O. Winston
Attorney Docket Number	0302670-24 (prev. 271/088)

Examiner Initials *	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	Number	Kind Code <sup>2</sup> (if known)			
	US-3826899		Ehrlich et al	07/30/1974	
	US-5374556		Bennett et al	12/20/1994	
	US-5472550		Periasamy	12/05/1995	
	US-5677286		Shull et al	10/14/1997	
	US-5834208		Sakano	11/10/1998	
	US-5998152		Lynch et al	12/07/1999	
	US-6008010		Greenberger et al	12/28/1999	
	US-6355491	B1	Zhou et al	03/12/2002	
	US-6387331	B1	Hunter	05/14/2002	
	US-6395480	B1	Hefli	05/28/2002	
	US-6408878	B2	Unger et al	06/25/2002	
	US-6411838	B1	Nordstrom et al	06/25/2002	
	US-6485905	B2	Hefli	11/26/2002	
	US-6507400	B1	Pina et al	01/14/2003	
	US-6518056	B2	Schembri et al	02/11/2003	
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	US-6624940	B1	Grier et al	09/23/2003	
	US-2002/0025529	A1	Quake et al	02/28/2002	
	US-2002/0037542	A1	Allbritton et al	03/28/2002	
	US-2002/0181837	A1	Wang et al	12/05/2002	
	US-2003/0008364	A1	Wang et al	01/09/2003	

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	Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	WO	02/39104	A1	Kibar	05/16/2002		

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	ARLT et al, "Moving Interference Patterns Created Using The Angular Doppler Effect", Optics Express, 10, 16, 2002, 844-852.	
	ASHKIN, "The Pressure Of Laser Light", Scientific American, 226, 2, 1972, 63-71.	
	BUICAN, "Automated Cell-Separation Techniques Based On Optical Trapping", ACS Symposium Series, 464, 1991, 59-72.	
	GROVER et al, "Automated Single-Cell Sorting System Based On Optical Trapping", Journal of Biomedical Optics, 6, 1, January 2001, 14-22.	



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	MACDONALD et al, "Trapping & Manipulation Of Low Index Particles In A Two Dimensional Interferometric Optical Trap", Optics Letters, 26, 12, 2001, 863-865.	
	MARKX et al, "The Dielectrophoretic Levitation Of Latex Beads, with Reference To Field-Flow Fractionation", Journal Of Physics D: Applied Physics, 30, 17, 1997, 2470-2477.	
	MOLLOY et al, "Lights, Action: Optical Tweezers", Contemp. Physics, 43, 4, 2001, 241-248.	
	MOLLOY et al, "Optical Tweezers In A New Light", J. Modern Optics, 50, 10, 2003, 1501-1507.	
	PRIEVE, "Use Of Optical Forces To Detach Single Microscopic Particles Adhering To Flat Surfaces In Aqueous Media", Proceedings of the Annual Meeting Of the Adhesion Society, 20 <sup>th</sup> , 1997, 151-153.	
	ZEMENEK et al, "Optical Trapping Of Rayleigh Particles Using A Gaussian Standing Wave, Optics Communication, 151, 4, 5, 6, 1998, 273-285.	

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